

Having, thus, described the invention, what is claimed is:

1        1. An apparatus for fixing the position of a metal end cap on a porous filter element,  
2        the apparatus comprising:  
3            a filter support mechanism for supporting a filter element;  
4            a first inductive heater disposed at a first side of said filter element support  
5        mechanism and being reciprocally movable with respect thereto; and  
6            a drive system for selectively and reciprocally moving said first inductive heater  
7        toward and away from said filter support mechanism.

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4     threading formed thereon, wherein each of said first and second heaters are threadably  
5     connected to said control shaft.

1             5. The apparatus of claim 4, further comprising a motor, operatively connected to said  
2     control shaft, for rotating said control shaft to move said inductive heaters in substantially  
3     opposite directions.

1             6. An apparatus for fixing the position of metal end caps on a porous filter element,  
2     the apparatus comprising:

3             a support structure comprising first and second side pillars and a boom  
4     interconnecting the side pillars;

5             a control shaft disposed within said support structure and rotatably mounted thereto,  
6     said control shaft having a first end with a right-hand threading formed thereon, and a second  
7     end with a left-hand threading formed thereon;

8             a first inductive heater located in said first side pillar and movably supported on said  
9     control shaft; and

10            a second inductive heater located in said second side pillar and movably supported on  
11     said control shaft.

1             7. The apparatus of claim 6, further comprising a motor, operatively connected to said  
2     control shaft, for rotating said control shaft to move said inductive heaters in substantially  
3     opposite directions.

1 8. A method of forming a filter cartridge, comprising the steps of:  
2 a) supporting a substantially cylindrical porous filter element at a central portion  
3 thereof;  
4 b) transferring the filter element to an end cap application station;  
5 c) placing a pair of metal end caps, having an adhesive therein, on opposite ends of  
6 said filter element;  
7 d) transferring the filter element to an inductive heating station; and  
8 e) heating the end caps, by inductive heating, thereby fixing the position of the end  
9 caps on the filter element.

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6 end of a filter element held by said filter support apparatus;

7 a first inductive heater disposed at said second station and being reciprocally movable

8 with respect to said filter support apparatus; and

9 a heater moving device for selectively and reciprocally moving said first inductive

10 heater toward and away from said filter support apparatus at said second station.

12. The apparatus of claim 11, further comprising a second inductive heater at said

2 second station, and wherein said heater moving device is operable to move said first and

3 second inductive heaters simultaneously in opposite directions.

13. The apparatus of claim 1, wherein the filter support mechanism comprises a gripper assembly which is movably mounted on a continuous loop chain conveyor.

14. The apparatus of claim 11, wherein the filter support mechanism comprises a gripper assembly which is movably mounted on a continuous loop chain conveyor.